WHAT IS CLAIMED IS:

1. A pseudo-random pattern transmission apparatus comprising:

a pseudo-random pattern storage section adapted to store a pseudo-random pattern;

a transmission memory adapted to store a plurality of packets which is constructed by inserting the pseudo-random pattern in sequence into payload parts of a continuous frame of digital signal;

a software processing section having an idle sending processing section adapted to calculate the number of inserted idle bytes in response to a specified transmission rate of the digital signal;

an idle sending section adapted to send an idle byte;

a transmission control section adapted to alternately execute transmission of the plurality of packets from the transmission memory and transmission of idle bytes from the idle sending processing section to a digital line.

2. The pseudo-random pattern transmission apparatus according to claim 1, wherein the digital signal is an IP packet.

3. The pseudo-random pattern transmission apparatus

according to claim 1, wherein the digital signal is a PPP frame.

4. The pseudo-random pattern transmission apparatus according to claim 3, wherein whole IP packet forming a part of the PPP frame is handled as the payload part.

5. The pseudo-random pattern transmission apparatus according to claim 1, wherein the digital line is an SDH line.

6. The pseudo-random pattern transmission apparatus according to claim 1 wherein an error is settable in the pseudo-random pattern in advance.

7. The pseudo-random pattern transmission apparatus according to claim 1, wherein the pseudo-random pattern stored in the pseudo-random pattern storage section is data having 2n-1 bits and is changeable arbitrarily.